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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

LI, GUANG W

ART UNIT	PAPER NUMBER
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2446

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/510,312	Applicant(s) PAVLIK ET AL.	
	Examiner GUANG LI	Art Unit 2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-28 and 30-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-28 and 30-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment date 11/07/2008
2. Claims 10-28 and 30-39 are presented for examination and Claims 29 and 40-44 are cancelled
3. The rejections are respectfully maintained and reproduced infra for applicant's convenience.

Response to Arguments

4. Applicant's arguments filed 11/07/2008 have been fully considered but they are not persuasive.
5. Applicant argues the following limitation(s):
 - Applicant argues, stated in the remark on page 6, “Applicants disagreed that Swales discloses a web server having a mechanism for implementing an automation functionality. Swales does not teach or suggest a web server comprising automation functionality. Swales et al. discloses different units for the web server and the programmable controller. In the outstanding office action the rejection under Section 102 was withdrawn in lieu of a new rejection under Section 103: Swales (U.S. 6,321,272) in view of Kuchlin et al. (Kuchlin)”. On the contrary, Kuchlin teaches the PLC tasks can be processed on the HIGHROBOT control see Kuchlin: section 3.2 HighRobot Networking. Examiner agreed that applicant stated in the previous argument Swales failed to teach the server device comprises first mechanism for implementing automation functionality, However, Kuchlin disclose this limitation. First of all, in the art of computer networks, web server refers to a computer that

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accepts and responds to HTTP request from web client, or a computer that runs the web server program as defined. The HIGHROBOT is an open workstation based robot control which has full access to the Internet and its Web-Technologies (Kuchlin, Abstract). The system "is based on an application independent general server which enables Web-based distributed object computing" (Kuchlin, section 1, Introduction). This is clearly the HIGHROBOT system is a web server. In addition, Kuchlin discloses industrial automation objects directly integrated in the server (section 4.2, 4.2.2, 4.2.4, 5) and the use of object-oriented paradigm, programmed in c++ and JAVE, which utilizes the system servers and network interfaces. Therefore, it is inherent and obvious that the software modules are installed in the server as interface-compatible extension of web server." Refers to the Kuchlin discloses the system as being a general server, wherein control objects such as Robot object and PLC object, can be expand upon. Therefore, Kuchlin teaches the automation functionalities to be expansion objects/modules of the web server.

Claim Objections

6. Claim 10 is objected to because of the following informalities:

Claim 10 line 2 discloses "the webserver" believes there is necessary space needed between web and server.

7. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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9. Claims 11-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claims 11-27 disclose, “The system according to claim...” it is vague and indefinite whether the system refers to the server system disclosed in independent claim 10.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 10-28, 30-31 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swales (US 6,321,272) in view of Kuchlin et al. (“HIGHROBOT: Telerobotics in the Internet”, copyright 1997).

12. Regarding claim 10, Swales teaches a server system comprising a computer and a web server device implemented on the computer, the webserver (Web server 30 see Swales: Fig.2 block 30) comprising software modules (Swales: Fig.3 web server module), a second mechanism (communication link between Ethernet driver 48 and network 42 see Swales: Fig. 3) for accessing a real-time operating system (A real time operating system 44 controls the interaction between the components see Swales: col.5 lines 9-10). Swales further teaches programmable controller use to control the process control system “field of programmable controllers and more particularly to a system for the exchange of time-critical information between control devices coupled to an intranetwork such as would be common in the fields of factory automation and industrial process control” see col.1 lines 15-20.

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Swales does not explicitly disclose web server device comprises first mechanism for implementing an automation functionality.

Kuchlin teaches a web server device comprises software modules, wherein at least one first software module comprises first mechanism for implementing an automation functionality (HighRobot control system including automation functionalities of PLC “With the use of the HIGHROBOT control system in our robot cell we replaced three control systems (including two PLCs). The PLC tasks can be processed on the HIGHROBOT control see Kuchlin: section 3.2 Highrobot Networking”). Kuchlin further discloses, an open working station based robot control which has full access to the Internet and its Web-Technologies (see Kuchlin: abstract). Furthermore, Kuchlin discloses a web server carrying out web server functionalities as well as industrial automation functionalities (see Kuchlin: section 1, section2, section 3.2 section4 and section 4.1).

It would have been obvious to one of ordinary skill in the art, having the teachings of Swales and Kuchlin before them at the time the invention was made to modify the web server device of Swales to include (or to use, etc.) a web server device comprises software modules, wherein at least one first software module comprises first mechanism for implementing an automation functionality as taught by Kuchlin.

One of ordinary skill in the art would have been motivated to make this modification in order to high level networking purpose in view of Kuchlin.

13. Regarding claim 11, Swales together with Kuchlin taught the system according to claim 10 as described hereinabove. Swale further teaches wherein the web server comprises a

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connection to a communication network (web server module 30 within web server connects to network 42 see Swale: Fig.3 block 30 and 42).

14. Regarding claim 12, Swales together with Kuchlin taught the system according to claim 11 as described hereinabove. Swale further teaches wherein the communication network is the Internet (the relationship between a user 2 at a remote location and an Internet web site 4 used for monitoring a process control system 6 through Internet 14 see Swale: col.3 lines 56-59; Fig.1).

15. Regarding claim 13, Swales together with Kuchlin taught the system according to claim 10 as described hereinabove. Swale further teaches wherein Internet protocols are provided for communication between the software modules and for communication between the software modules and components outside of the web server (TCP/IP protocol was use in and out of network “General purpose network protocols using this hardware include the increasingly dominant TCP/IP, and Novell IPX, Digital Equipments DECNET and others. The TCP/IP-Ethernet combination, in particular, is the most widely deployed computer network interface in use, and therefore has minimum cost to implement and support” see Swale: col.1 lines 56-61; col.4 lines 6-7).

16. Regarding claim 14, claim 14 is rejected for the same reason as claim 13 as set forth hereinabove.

17. Regarding claim 15, Swales together with Kuchlin taught the system according to claim 10 as described hereinabove. Swale further teaches wherein the web server is adapted for configuration and administration of the software modules (administrator access the web server to control the backplane application “The gateway 72 contains a firewall to provide the necessary

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security and couples the PLC system 70 through an intranetwork 74 controlled by a network administrator 76” see Swale: col.9 lines 65-67 and col.10 lines 1-12).

18. Regarding claim 16, claim 16 is rejected for the same reason as claim 15 as set forth hereinabove.

19. Regarding claim 17, claim 17 is rejected for the same reason as claim 15 as set forth hereinabove.

20. Regarding claim 18, Swales together with Kuchlin taught the system according to claim 10 as described hereinabove. Swale further teaches wherein the first software module comprises a connection to an industrial automation system (interface between the general purpose network and the **industrial control system** that will carry on-demand traffic from computer systems, operator terminals, and alarm systems see Swale: col.2 lines 35-39).

21. Regarding claim 19, claim 19 is rejected for the same reason as claim 18 as set forth hereinabove.

22. Regarding claim 20, claim 20 is rejected for the same reason as claim 18 as set forth hereinabove.

23. Regarding claim 21, claim 21 is rejected for the same reason as claim 18 as set forth hereinabove.

24. Regarding claim 22, Swales together with Kuchlin taught the system according to claim 10 as described hereinabove. Swale further teaches wherein the web server comprises a connection to Internet via a firewall (A firewall or security for the overall system can be included in the Web Server 30, but is generally maintained as part of the network interface 16 see Swale: col.4 lines 39-41).

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25. Regarding claim 23, claim 23 is rejected for the same reason as claim 22 as set forth hereinabove.

26. Regarding claim 24, claim 24 is rejected for the same reason as claim 22 as set forth hereinabove.

27. Regarding claim 25, Swales together with Kuchlin taught the system according to claim 10 as described hereinabove. Swale further teaches wherein the web server is connected via a communication network to a web browser as a operating and monitoring system (The browser 10 functions as a remote human-machine interface or HMI control of the process control system and user at a remote location utilizing a browser which controlling a programmable controller system see Swale: col.4 lines 31-33; Fig.7).

28. Regarding claim 26, claim 26 is rejected for the same reason as claim 25 as set forth hereinabove.

29. Regarding claim 27, claim 27 is rejected for the same reason as claim 25 as set forth hereinabove.

30. Regarding claim 28, claim 28 is rejected for the same reason as claim 10 as set forth hereinabove. Regarding claim 28, Swales together with Kuchlin taught the claimed device, therefore they teach the claimed automation system (It would be desirable to develop an automation control system whereby these problems are minimized, using the same type of general purpose networks see Swales: col.2 lines 18-24).

31. Regarding claim 30, Swales together with Kuchlin taught the web server device according to claim 28 as described hereinabove. Kuchlin further comprising a plurality of web server, wherein the plurality of web server have extension modules, wherein a first extension

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module is connected to an input/output module of the automation system (input and output for the automation functionalities “The PLC tasks can be processed on the HighRobot control and input and output is made via the variable number field bus I/O devices” see Kuchlin: Section 3.2).

32. Regarding claim 31, Swales together with Kuchlin taught the web server device according to claim 30 as described hereinabove. Kuchlin further teaches wherein the first extension module has functions of a programmable logic control (HighRobot control system including automation functionalities of PLC “With the use of the HIGHROBOT control system in our robot cell we replaced three control systems (including two PLCs). The PLC tasks can be processed on the HIGHROBOT control see Kuchlin: section 3.2 Highrobot Networking”).

33. Regarding claim 39, Swales together with Kuchlin taught the web server device according to claim 30 as described hereinabove. Swales further teaches wherein a web server of the plurality of web server has an extension module connected to a SQL7 server (connected to a database for database lookup “A simple file transfer or database lookup by someone's portable computer could inadvertently disrupt the fragile assumptions about transmission bandwidth” see Swales col.1 lines 21-44) and a further extension module connects to an industrial process (industrial control system control industrial processes “Accordingly, the principal object of the present invention is to provide an interface between an industrial control system and a general purpose network such as Ethernet” see Swales col.2 lines 28-30).

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34. **Claims 32-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swales (US 6,321,272) in view of Kuchlin et al. (“HIGHROBOT: Telerobotics in the Internet”, copyright 1997) and in further in view of Sharood et al. (US 2001/0025349 A1).**

35. Regarding claim 32, Swales together with Kuchlin taught the web server device according to claim 28 as described hereinabove. Kuchlin further comprising a plurality of web server, wherein the plurality of web server have extension modules,

Swales together with Kuchlin does not explicitly disclose wherein a second extension module is connected to a converter, wherein the second extension module has a computer numerical control functionality so that a computer-controlled machine tool is controlled based upon the second extension module. Kuchlin further teaches wherein the computer-controlled machine tool is used for a high-speed and precision manufacture of turned and milled parts (user controls the SCARA robot arm through the motor controller for transfer system for controlling industrial parts See Kuchlin: Figure 1 HighRobot Universal Control and parts of the controlled robot cell).

Sharood teaches wherein a second extension module is connected to a converter, wherein the second extension module has a computer numerical control functionality so that a computer-controlled machine tool is controlled based upon the second extension module (control server connected to bus converter and control the automate devices “The EIB LAN uses a bus converter to connect the LAN to the control server 100 using an available RS-232 port of the control server 100” Sharood: ¶[0216])

It would have been obvious to one of ordinary skill in the art, having the teachings of Swales through Sharood before them at the time the invention was made to modify the web

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server device of Swales and Kuchlin to include (or to use, etc.) wherein a second extension module is connected to a converter, wherein the second extension module has a computer numerical control functionality so that a computer-controlled machine tool is controlled based upon the second extension module as taught by Sharood.

One of ordinary skill in the art would have been motivated to make this modification in order to control another separate industrial device for universal purpose in view of Sharood.

36. Regarding claim 33, Swales together with Kuchlin taught the web server device according to claim 31 as described hereinabove. Swale together with Kuchlin does not explicitly disclose wherein a second extension module is connected to a converter.

Sharood teaches wherein a second extension module is connected to a converter (control server connected to bus converter and control the automate devices “The EIB LAN uses a bus converter to connect the LAN to the control server 100 using an available RS-232 port of the control server 100” Sharood: ¶[0216]).

It would have been obvious to one of ordinary skill in the art, having the teachings of Swales through Sharood before them at the time the invention was made to modify the web server device of Swales and Kuchlin to include (or to use, etc.) wherein a second extension module is connected to a converter as taught by Sharood.

One of ordinary skill in the art would have been motivated to make this modification in order to transformation and conversation purpose in view of Sharood.

37. Regarding claim 34, Swales through Sharood taught the web server device according to claim 33 as described hereinabove. Sharood further teaches wherein a third extension module controls a drive (control server control the coupler drive “As shown in FIG. 21, the control server

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10 communicates with room thermostats through the heating LAN while bus couplers drive on/off valves, proportional valves, and dampers” see Sharood: ¶[0219]).

38. Regarding claim 35, Swales through Sharood taught the web server device according to claim 34 as described hereinabove. Sharood further teaches wherein a fourth extension module controls a valve (control server control the proportional valves “As shown in FIG. 21, the control server 10 communicates with room thermostats through the heating LAN while bus couplers drive on/off valves, proportional valves, and dampers” see Sharood: ¶[0219]).

39. Regarding claim 35, Swales through Sharood taught the web server device according to claim 34 as described hereinabove. Kuchlin further teaches wherein a web server of the plurality of web server is an embedded web server (web server has embedded PLC functionalities that able to control the automation devices see Kuchlin: Section 3.2).

40. Regarding claim 37, Swales through Sharood taught the web server device according to claim 36 as described hereinabove. Kuchlin further teaches wherein the embedded web server is implemented as a single-chip solution inside a personal computer (Universal control multiprocessor including CAN interface card inside a user computer to control the robot arm see Kuchlin: Figure 1).

41. Regarding claim 38, Swales through Sharood taught the web server device according to claim 36 as described hereinabove. Swales further teaches wherein a web server of the plurality of web server is connected to the internet via a firewall (A firewall or security for the overall system can be included in the Web Server 30, but is generally maintained as part of the network interface 16 see Swale: col.4 lines 39-41).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guang Li whose telephone number is (571) 270-1897. The examiner can normally be reached on Monday-Friday 8:30AM-5:00PM(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GL
Patent Examiner

/Joseph E. Avellino/
Primary Examiner, Art Unit 2446